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THE AGRICULTURAL EXPERIMENT STATION
INSTITUTE OF AGRICULTURE
AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA-LINCOLN
H. W. OTTOSON, DIRECTOR

Agricultural Experiment Station

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Vol. 9, No. 8, February, 1977

FROM THE DIRECTOR'S DESK

WATER RESEARCH: It's no secret that Nebraska has suffered through a period of extreme drought for the past three years. This drought has emphasized anew the continuous need for research on water related agricultural problems.

Although not generally recognized by those outside the state, Nebraska is rich in water resources. Much of the groundwater reserve in the Central Great Plains lies under Nebraska. Nevertheless, Nebraska does have considerable numbers of agriculturally related water problems. These stem largely from the fact that our agricultural economy places great demands on our water supplies. Also, much of our water is in the ground and significant amounts of energy are required to make it useful to us. Furthermore, our water supplies are poorly distributed, geographically, through out the state.

The Nebraska Agricultural Experiment Station has had a long commitment to water related agricultural research, and water related research is a major component of the Station's activities at this time. In mid 1975, to improve coordination of the entire IANR research effort in water, and to sharpen the Station's focus on water problems, it was decided to formalize the tie between the Water Resources Center and the Experiment Station. This was done by giving the Director of the Water Resources Center the title and responsibility of Assistant Director of the Experiment Station for the water related programs.

The 1975 Inventory of Agricultural Research (Volume II), shows 25 Nebraska AES projects in the categories of water and watersheds, for a combined expenditure of 794,000 dollars. Most of these projects are continuing and their support level has increased. Additional support for these efforts is obtained from a variety of other agencies. For example, almost 300,000 dollars were pumped into this effort in FY 1977 by the Nebraska Water Resources Center on 13 projects directly supportive of the Station's research programs.

A major thrust in these projects is to find better ways of utilizing water in agriculture: to provide higher yields from the same amount of water, or to optimize yields with a limited water supply. Areas of concern include improved irrigation technology, improved water conservation practices, the economics of irrigated agriculture, improved technology for the use of agricultural chemicals, the development of plant species which utilize water more effectively, and minimization of water pollution and water consumption in food processing.

We are confident that the Station's research efforts will continue to provide useful and timely answers to tomorrow's agricultural water problems.

M. W. Hall
Assistant Director

PERSONNEL ACTIONS

Fulton, William - Asst. Professor, Animal Science - Resignation
 Goodrich, Richard D. - Visiting Professor, Animal Science
 Gregory, Keith - Professor (Courtesy), Animal Science & Director, MARC - Resignation
 Hanway, Donald - Professor, Agronomy - Leave of Absence
 Teague, Howard S. - Professor (Courtesy), Animal Science, MARC - Resignation
 Wilke, Willard Lee - Asst. Professor, Veterinary Science - Appointment
 Young, Melvin D. - Instructor, Animal Science (Courtesy), MARC - Resignation

GRANTS AND CONTRACTS

Campbell, J. B. - Entomology (NP Sta) - EM Lab	500
Campbell, J. B. - Entomology (NP Sta) - ICI United States Inc.	1,500
Edling, R., et al - Ag. Engineering (PH Sta) - Lockwood Corporation	6,600
Ferguson, D. L. - Veterinary Science - American Cyanamid Company	6,000
Flowerday, A. D. - Agronomy - National Crop Insurance Assn.	1,500
Grace, O. D. - Veterinary Science - L. C. Payne - U N Foundation	500
Klopfenstein, T. J. - Animal Science - Distillers Feed Research Council	5,000
Moser, L. E. - Agronomy - UN Foundation, Henry Klosterman	500
Moser, L. E. - Agronomy - American Forage & Grassland Council	1,200
Perry, L. J. - Agronomy - U N Foundation, Henry Klosterman	500
Rehm, G. W. & G. W. Hergert - NE Sta. & NP Sta. - Chemical Enterprises	1,000
Rush, I. G. - Animal Science (PH Sta) - CPC International	4,000
Stetson, L. E. - Ag. Engineering - Nebraska Rural Electric Association	2,340
Sullivan, T. W. - Poultry & Wildlife Sciences - Texasgulf	3,000
Sullivan, T. W. - Poultry & Wildlife Sciences - Hooker Chemical Corporation	2,000
Wicks, G. A. - Agronomy (NP Sta) - FMC Corporation	1,000
Wicks, G. A. - Agronomy (NP Sta) - Grower - G. W. Joint Research Committee	4,800
Williams, J. H. & J. E. Specht - Agronomy - Neb Soybean Dev, Util & Mktg Bd	2,000

GENERAL NOTES

1. Experiment Station staff are invited to participate in a grants and contracts seminar March 1, 2:00-4:30 p.m. in Home Economics room 31. Dr. Schmehl, Mr. Mueller and some of your experienced colleagues (Drs. Kendrick, Rosenberg, Vidaver, and Sullivan) will be there to discuss policies, sources, and procurement strategies and management procedures. We believe that this can be helpful to newer staff and to others seeking guidance in obtaining such research support.
2. The Plant Pathology programs were reviewed by an outside team this month. The department is to be commended for the highly complimentary comments of the reviewers in their preliminary oral report to the administration.
3. Current indirect costs for all Agricultural Experiment Station grants and contracts over \$2,500 is 51% of salaries and wages.
4. Please do not forget the Agricultural Experiment Station whenever you have occasion to indicate sources of support of your research projects. Salaries, facilities, utilities, etc. are the heavy part of any project support and routinely these are provided by the Station.
5. Charges against this year's appropriated funds must be paid after delivery and before June 30. Any carry-over encumbrances will be against next year's funds and unused current year funds will be lost. So please plan ahead.
6. "Training means learning the rules; experience means getting wise to the exceptions."

R. W. Kleis

NEBRASKA AGRICULTURAL EXPERIMENT STATION PUBLICATIONS - January 1977

Journal Articles (contact authors for more information)

5253. Accelerated Pork Processing: Frankfurter Emulsion Properties. D. E. Stilwell, R. W. Mandigo, G. M. Weiss and J. F. Campbell. Journal of Food Science.
5254. Variation in Rooting Capability of Populus Deltoides. Cheng-Chun Ying and Walter T. Bagley. Silva Genetica.
5255. Singlehood - The New Look. Gay Gallup and Sally VanZandt. Journal of Home Economics.
5256. Rural Credit System Inadequacy: Fact or Fiction? Paul H. Gessaman, Larry L. Janssen and Gayle A. Morris. Journal of the Community Development Society of America.
5257. Occurrence of Kabatina Juniperi on Juniperus Virginiana in Eastern Nebraska. Andrea Ostrofsky and Glenn W. Peterson. Plant Disease Reporter.
5258. Biochemical Characterization of Some Carlaviruses. Ventakeswarlu Veerisetty and Myron K. Brakke. Phytopathology.
5259. Purification of Alfalfa Latent Virus. V. Veerisetty and M. K. Brakke. Phytopathology.
5260. Improving Silage Preservation and Stability with an Ammonia-Molasses-Mineral Solution. I. G. Soper and F. G. Owen. Journal of Dairy Science.
5261. Effect of Dietary Hemicellulose and Zinc on Blood Serum Lipid Levels and Fecal Fat Excretion of Adult Humans. Alethea C. Joseph, Constance Kies and Hazel M. Fox. Journal of Clinical Nutrition.
5262. Quantitative Genetic Studies and Population Improvement in Maize and Sorghum. C. O. Gardner. International Quantitative Genetics Symposium.
5263. Maintenance of Viability and Virulence of Corynebacterium nebraskense. Anne K. Vidaver. Phytopathology.
5264. Influence of Crop Residues on Plant Disease. R. J. Cook, M. G. Boosalis and B. Doupnik. Agronomy Journal.
5265. Plant Competition for Atrazine. D. H. Hoffman and T. L. Lavy. Weed Science.
5266. Sensory Evaluation of Methionine Isomers. Merlyn K. D. Vemury and Constance Kies. Journal of Food Science.
5267. The Relationship of the Emulsifying Characteristics of Proteins in Meat Emulsions, as Demonstrated by Histological Properties. R. Abdul Kadir and L. D. Satterlee. Journal of Food and Biochemistry.
5268. Calcium, Magnesium & Phosphorus Contents of Cultured and Acidified Cottage Cheese. D. K. Sinha, K. M. Shahani, A. Kilara and R. M. Hill. American Cultured Dairy Products Journal.

Journal Abstracts (contact authors for more information)

- 76-827. Weed Control as an Aid to Warm Season Grass Establishment. M. K. McCarty. North Central Weed Control Conference Proceedings.
- 76-828. Soil Persistence of Corn, Sorghum and Soybean Herbicides During the Year of Application. M. E. Schultz and O. C. Burnside. North Central Weed Control Conference Proceedings.
- 76-829. Utilization of Nitrogen from Various Nitrogen Carriers by Turfgrass. E. J. Kinbacher and R. C. Shearman. Agronomy Abstracts 1976.
- 76-830. Soybean Herbicide Trials in Nebraska in 1976. Russell S. Moomaw, Orvin C. Burnside and Fred W. Roeth. North Central Weed Control Conference Proceedings.
- 76-831. Weed Control in Reduced Tillage Corn Planting Systems. R. S. Moomaw and A. R. Martin. North Central Weed Control Conference Proceedings.
- 76-832. Effect of Elfazepam on Apparent Digestibility in Sheep. Sergio S. Gonzalez, Stanley D. Farlin and Clifton A. Baile. Federation Proceedings.
- 76-833. Five Percent Lactic Acid in a Hay Diet Fed to Sheep Affects Rumen Lactate Levels and Isomer Ratios During Subsequent Adaptation to High Concentrate Diets. Gerald Huntington, Robert Britton and Merlyn Nielsen. Federation Proceedings.
- 76-834. Five Percent Lactic Acid in a Hay Diet Fed to Sheep Enhances Rumen in vitro Lactate Disappearance During Subsequent Adaptation to High Concentrate Diets. Robert Britton, Gerald Huntington and Merlyn Nielsen. Federation Proceedings.
- 76-835. Gluconeogenesis from Alanine in vivo by the Ovine Fetus and Lamb. R. K. Christenson and R. L. Prior. Federation Proceedings.
- 76-836. Influence of Weed Control on Winter Wheat Yield, Soil Water Storage, and Weed Seed Production. R. Hoefer, O. C. Burnside and G. A. Wicks. North Central Weed Control Conference Proceedings.
- 76-837. Canada Thistle Control with Herbicide Growth Regulator Combinations. Mohammad R. Baradari, Robert G. Wilson and Lloyd C. Haderlie. North Central Weed Control Conference Proceedings.

BULLETINS PRINTED

- SB 539. Wheat Production Costs in the Southwestern & Panhandle Areas of Nebraska, 1974. Robert E. J. Retzlaff.
- RB 279. Results of the Sixth International Winter Wheat Performance Nursery Grown in 1974. K. D. Wilhelmi, S. L. Kuhr, V. A. Johnson, P. J. Mattern and J. W. Schmidt.